

REMARK

Applicant respectfully requests reconsideration of this application as amended. All existing claims have been cancelled, and claims 16-42 have been added. Therefore, claims 16-42 are present for examination.

Title and Abstract

The title and abstract of the application has been modified to conform to the claims herein. The original title and abstract were present before the required election of subject matter in this application and thus did not reflect the current state of the claims.

35 U.S.C. §103 Rejection

Merrill et al. in view of Gorelik

Merrill et al. in view of Gorelik and Gordon

The Examiner has rejected former claims 1 and 5 under 35 U.S.C. §103(a) as being unpatentable over Merrill et al., U.S. Patent No. 5,962,844 ("Merrill") in view of Gorelik, U.S. Patent No. 5,764,288 ("Gorelik"). The Examiner has rejected former claims 2-4 under 35 U.S.C. §103(a) as being unpatentable over Merrill in view of Gorelik and Gordon et al, U.S. Patent 3,833,903 ("Gordon").

It is noted that the new claims as presented herein are greatly modified from the previous claims, which have been cancelled. Applicant below responds to the previous rejections as such rejections might apply to the new claims. For example, claim 16, as added herein, reads as follows:

16. An apparatus comprising:
an analog photocell;

a sample and hold amplifier, a first input to the sample and hold amplifier being a charge from the analog photocell, a second input to the sample and hold amplifier being a reference voltage; and
an analog to digital converter, the analog to digital converter converting the output of the sample and hold amplifier to a digital value.

Merrill -- Merrill discusses an apparatus that has different purposes and a different structure than the claims presented herein. Merrill indicates in the Summary of the Invention:

The present invention is directed to an active pixel image cell which includes an embedded memory element and the control elements required to store and transfer signals representing the output of the pixel photodiode and provide them as an output of the pixel. The pixel elements may be used to simultaneously produce signals corresponding to the photodiode outputs for successive frames or to produce an output representing the difference between the photodiode outputs for successive frames.

Merrill thus is discussing a cell containing an element that is intended to store and transfer provide an output, specifically with regard to producing signals for successive frames or for producing difference outputs.

For this reason, Merrill does not teach or suggest the provisions of the claims. In particular, Merrill does not teach or suggest the use of a sample and hold amplifier for the input of the charge from an analog photocell and a reference voltage. The Office Action refers to transistors n2 and n3 as a first sample and hold amplifier, and to transistors n4 and n5 and capacitor 122 as a second sample and hold amplifier. It is submitted that, to the extent that this portion of the rejection is applicable to the new claims and to the

extent that these components comprise sample and hold amplifiers, they are not equivalent to the claims in the present application. As explained in Merrill, transistors n2 and n4 are sensing transistors that act as switches to pass the photocharge from the photodiode through transistor n3, which either provides the current frame output or, using capacitor 122 and transistor n5, the previous frame's output. (Merrill, col.6, line 61 through col. 7, line 5) There is no teaching or suggestion that such devices receive a reference voltage as a second input. As such devices are described in Merrill, only a *single input* is received. The illustration of the devices contained in Figure 3 of Merrill confirms this.

The Office Action states that "Merrill does not disclose an analog to digital converter for converting the analog difference into a digital value", which in itself provides evidence that Merrill is not relevant to the claims in this application. Under claim 16, the output of the sample and hold amplifier is converted to a digital value. The statement in the Office Action that it is "well known that digital values are necessary for video compression since digital values are more efficiently stored", even if accurate, is irrelevant with regard to claims that specifically regard analog to digital conversion.

The Applicant further respectfully disagrees with the Office Action statement that "Furthermore, A/D converters are notoriously well known. It is a matter of design choice and require[s] only routine skill in the art [to determine?] the manner in which an A/D converter is implemented." This statement incorrectly suggests that novel improvements in analog to digital conversions are by their nature obvious. To the extent that this statement would be applicable to the current claims, the Applicant requests that references in support of such statement be provided.

Other References -- With regard to the other references, the Office Action cites to Gorelik regarding digitizing analog signals and storing the result as a digital key frame in memory and cites to Gordon regarding the disclosure of a digital converter containing a voltage controller oscillator and a counter coupled to the oscillator. In addition to other problems with these references, neither Gorelik or Gordon teaches or suggests a sample and hold amplifier that receives the charge from an analog photocell as a first input and a reference voltage as a second input. For this reason, Merrill, Gordon, and Gorelik, alone or in any combination, cannot teach or suggest the claims presented herein.

It is submitted that the arguments presented above with regard to claim 16 also apply to the other claims presented in the application and, for at least these reasons, the claims presented herein are allowable.

Further, in addition to the other differences, claim 32 specifically claims a *digital photocell* containing certain listed elements. Even assuming that individual elements of the claims could be found in the cited references, which is disputed by the Applicant, none of the references teach or suggest the incorporation of such elements in a digital photocell. For this reason, claim 32 and claims dependent on such claim are allowable.

Conclusion

Applicant respectfully submits that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Request for an Extension of Time

Applicant respectfully petitions for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.

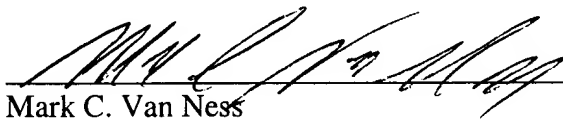
Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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Date: 11/26/01


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